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PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Improvements in Driving means for Carding Engine Flats

We, DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT NIEDERLASSUNG DER SCHUBERT & SALZER MASCHINENFABRIK AKTIENGESellschaft, of Ingolstadt, Donau, Germany, a German Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to the driving means for the flats of flat carding engines.

In the usual constructions of such driving means, the card flats are secured at uniform distances apart from one another to two revolving endless roller chains. The driven card flat chains gradually wear and elongate. With this, the engagement of the teeth of the driving wheels is defective and result in a jerky movement of the card flat chains. It is particularly disagreeable when the two chains elongate differently and the flats thereby stand askew.

Moreover, the known roller chains for driving the flats require constant supervision. They must be lubricated, on the one hand to enable the flats to turn around their pivots so that they will lie evenly upon the flexible bend, and on the other hand to reduce their wear. At the lubrication points, loose fibres become attached and with the lubricant and dust form a coating which from time to time must be removed. The cleaning of the chains is tedious and results in reduction of output.

It is true that rivetting the card flat to endless flexible bands has already been suggested. Apart from the fact that card flats riveted on bands in this way cannot meet the high requirements of modern cards, the individual flats cannot be removed from the bands and cannot therefore be replaced. Moreover, in order to employ the cards over the whole of the working area and in order to rub the flats, it is necessary to be able to dismantle separate card flats. With rivetted flats this is not, however, possible.

[Price 3s. 6d.]

The purpose of the present invention is to remove these defects and this is achieved by having the card flats, which are fastened to endless flexible bands which act as carrying and driving members, clamped fast to these bands by means of plates.

A number of embodiments of the present invention are illustrated in the drawings, in which:—

Figure 1 is a side view of the flat-driving toothed wheel and of the flats;

Figure 2 shows a plan of the flats viewed in the direction of the arrow A, Figure 1;

Figures 3 to 6 show various constructions of the connection between the flats and the band, in side elevation and in part section;

Figure 7 is the side elevation of the end of a flat of modified construction;

Figure 8 shows another modified construction of the connection between the flats and the band, in side elevation and in part section.

The toothed wheel 4, which is fixed on a shaft 3 journaled in the machine frame, drives the travelling flats 1 attached to the endless band 2. The band 2, in the embodiments shown in Figures 1 to 3, is constructed as a flat toothed belt. The band consists for example of synthetic material, optionally with reinforcement by steel strands, in known manner, which are arranged within the band, take up the tension force and prevent elongation of the band. Metal bands could equally well be employed instead of bands of synthetic material. The teeth 2¹ of the flat toothed belt engage on the one hand in corresponding recesses in the ends of the flats 1 and on the other hand in corresponding recesses in the plates 10 which are fixed to the ends of the flats by means of screws 1¹. The run-off of the flats from the wheel 4 and their run on to the arcuate slide track 5 bends takes place without rising or tilting.

In the embodiments shown in Figures 4 and 5, instead of a toothed belt, a smooth belt is employed. This is for example as

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- shown in Figure 4, clamped between the convex flat end 1 and a concavity formed in the plate 10. In the embodiment according to Figure 5, eyelets 6 are drawn into the smooth belt at the distance apart of the successive flats and serve for receiving the screw bolts 1'. Incidentally, the ends of the flats and the plates may have smooth surfaces without recesses opposed to the band.
- 10 Figure 6 shows a toothed belt manufactured from a flat belt, the teeth or bars 7 being secured to the band 2, for instance, by means of rivets 8, in accordance with the spacing of the flats.
- 15 In Figure 7, the band is a steel band with embossed depressions which engage in a suitable countersink of the bore of the flat.
- 20 If each individual flat is to be removable in any operative position from the band, then the embodiment shown for example in Figure 8 is provided. The flat then rests on the band 2 and is connected by means of the screw 1' to its lower plate 11 which is guided upon the arcuate slide track 5, in such a manner as to be releasable and reset in position.
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- supporting and driving members, characterised in that the bands are clamped to the ends of the flats by means of plates.
2. Driving means as claimed in Claim 1, characterised in that the flats are screwed on the upper surface of the bands and the surfaces running on the arcuate slide track of the carding engine are formed by the clamping plates.
3. Driving means as claimed in Claims 1 and 2, characterised in that the bands are constructed as toothed belts the teeth of which engage in recesses in the ends of the flats and/or their clamping plates.
4. Driving means as claimed in Claims 1 and 2, characterised in that the bands are constructed as flat bands and are clamped between the ends of the flats, which are corrugated transversely to the longitudinal direction of the bands, and the clamping plates.
5. Driving means as claimed in Claims 1 and 2, characterised in that the bands are formed as smooth bands and are provided with eyelets at the distance apart of the successive flats for the reception of the screw bolts for the clamping plates.
6. Driving means for the flats of travelling-flat carding engines, substantially as hereinbefore described with reference to the accompanying drawings.
- WHAT WE CLAIM IS:—
1. Driving means for the flats of travelling flat carding engines in which the flats are attached to endless flexible bands serving as
- MARKS & CLERK.

870,424
1 SHEET

COMPLETE SPECIFICATION

This drawing is a reproduction* of
the Original on a reduced scale.

